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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/680,406

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Steven E. Zimlin

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12/28/2005

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EXAMINER

EDWARDS, ANTHONY Q

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/680,406

Applicant(s)

ZIMLIN ET AL.

Examiner

Anthony Q. Edwards

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 1, 2005 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to amended claim 20, the same recites three (3) types of connectors: (1) a "control connector" in line 2; (2) a "connector" in line 5; and (3) port connectors in sections B) and D), respectively. It is not clear whether a "control connector" and a "connector" are the same. Claims 21-29 depend from claim 20 and are rejected for at least the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-29 are rejected under 35 U.S.C. 103(a) as being as obvious over U.S. Patent No. 6,618,249 to Fairchild in view of U.S. Patent No. 6,392,892 to Sobolewski et al. ("Sobolewski" hereinafter). Referring to claim 1, Fairchild discloses a storage device comprising a cabinet (not shown) capable of holding a plurality of modules (26/62), see Figs. 2 and 4, capable of containing a plurality of storage devices (18), said cabinet having a docking port (not shown) being configured to electrically connect to said modules, wherein each storage device (18) includes a housing comprising a substantially flat rectangular box having six faces including two sides (i.e., top 64 and bottom 66) four edges (i.e., located at the top and bottom of the box), wherein each side is adjacent to the four edges. See Fig. 3 and col. 6, lines 49-50. Fairchild also discloses each module (26/62) of said plurality of modules including a board (82), see Fig. 4, having a plurality of ports (84), each port of said plurality of ports being capable of electrically coupling (i.e., connecting) to a storage device (18), and said plurality of ports (84) being arranged in two rows, one row along each of two lengthwise edges of the board, wherein a coupling direction of the ports is outward from the board (82). See Fig. 4, which shows the two rows as claimed, as well as a third row having another port between the two lengthwise edges of the board.

Fairchild does not specifically teach a connector coupled to a first edge and the connector being closer to a first side than to a second side, so that a plurality of storage devices when coupled to the ports are arranged in rows with the first sides of the storage devices facing away from each other and with the second sides of the storage devices facing each other.

Sobolewski teaches providing a connector (140/142) coupled to a first edge of a storage device (see Fig. 9A), the connector being closer to a first side (i.e., bottom) than to a second side (i.e., top) of the storage device, so that a plurality of storage devices (58) when coupled to the ports are arranged in rows with the first sides of the storage devices facing away from each other and with the second sides of the storage devices facing each other (see Fig. 6C).

It would have been obvious to one having ordinary skill in the art at the time of the invention to rearrange the orientation of the storage devices, such that the first sides of the storage devices are facing away from each other and the second sides of the storage devices are facing each other, as taught by Sobolewski, since this arrangement would provide help reduce shock attenuation between the storage devices while rotating in opposite directions.

Referring to claim 10, Fairchild in view of Sobolewski disclose a storage apparatus, including a housing (26/62) holding said board and configured to hold a plurality of devices (18) in rows with a lateral surface of said storage devices facing parallel to a lateral edge of said board when said plurality of devices are connected to said board (see Fig. 2-4 of Fairchild).

Referring to claims 2 and 11, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein each module (26/62) further includes a side housing member (22) having raised portions (24) and lowered portions (50), said raised portions providing a channel to allow airflow through said module. See Fig. 1B and col. 4, lines 25-49 of Fairchild.

Referring to claims 3 and 12, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein each module (26/62) further includes a top housing member (28) having lateral raised portions (i.e., portion having vents (32/34)) and lateral lowered portions (i.e., portion below vents), said lateral raised portions providing a channel to allow airflow through said module. See Fig. 1A and col. 3, lines 9-16 of Fairchild.

Referring to claims 4 and 13, Fairchild in view of Sobolewski does not teach the top housing including a plurality of individually removable segments. It is well known, however, that constructing a formerly integral structure in various elements has been held to involve only routine skill in the art (see MPEP 2144.04; *In re Nerwin v. Erlichman*, 168 USPQ 177, 179). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the device of Fairchild, such that the top housing (28) is constructed into a plurality of individually removable segments, since individually removable segments would allow for removal of separate modules (26/62) from the front of the storage apparatus (10) of Fairchild without having to remove the entire top housing from the cabinet.

Referring to claims 5 and 14, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein each module (26/62) further includes a bottom housing portion (50) having raised bottom portions (88) and lowered bottom portions (80) providing a channel to allow placement of interconnections (98) to said plurality of ports (84). See Figs. 4, 6A and 6B and the corresponding specification of Fairchild.

Referring to claims 6 and 15, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein lowered bottom portions provide mechanical support to said board (82). See Figs. 4, 6A and 6B and the corresponding specification of Fairchild.

Referring to claims 7 and 16, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein said board (82) further includes an electrical connector (not shown) capable of electrically coupling said module to said docking port in said cabinet, and is inherently capable of receiving a signal. See Fig. 4 and col. 8, lines 34-40 of Fairchild.

Referring to claims 8 and 17, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, wherein said board further includes a latching mechanism (86) capable of mechanically connecting said module to said docking port (42) in said cabinet. See Fig. 4 and col. 7, lines 50-63 of Fairchild.

Referring to claims 9 and 18, Fairchild in view of Sobolewski discloses a storage device and storage apparatus, respectively, and storage apparatus, respectively, wherein each module of said plurality of modules is configured to be electrically

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disconnected and mechanically removed from a docking port within said cabinet by a single operation, and to allow a single disk drive of said plurality of disk drives to be removed without disturbing a connection of other disk drives connected or coupled to the board of the module. See col. 5, lines 45-49 of Fairchild.

Referring to claim 19, Fairchild in view of Sobolewski discloses a storage apparatus, wherein said housing is made of thermally conductive material. See col. 7, lines 35-40 and col. 8, lines 50-57 of Fairchild.

Method claims 20-29, as best understood by the Examiner, are also rejected under 35 U.S.C. 103(a) as being obvious over Fairchild in view of Sobolewski, since "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

Response to Arguments

Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent No. 5,822,184 to Rabinovitz discloses a storage

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device assembly, wherein the storage devices have a connector coupled to a first edge and the connector is closer to a first side than to a second side. See Figs. 2-4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 571-272-2042. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 24, 2005
aqe

Lisa Lea Edmonds
LISA LEA-EDMONDS
PRIMARY EXAMINER